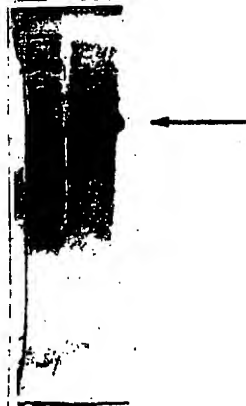


FIG. 1A

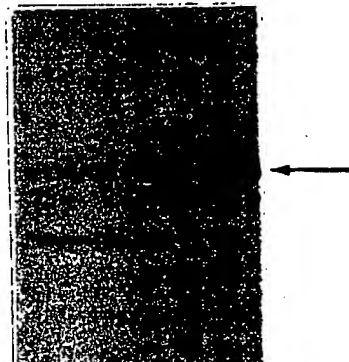
919 (46 kDa)

PURIFICATION

M1 919

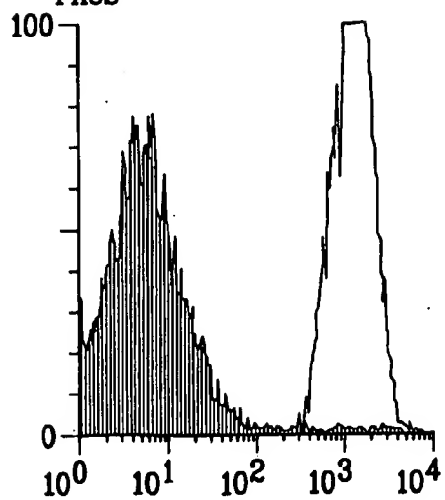
*FIG. 1B*

919 (46 kDa)

WESTERN BLOT
OMV TP PP*FIG. 1C*

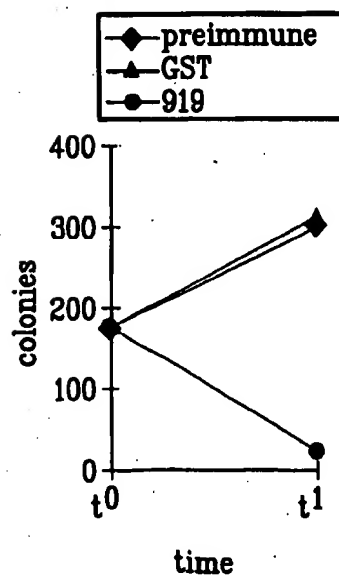
919 (46 kDa)

FACS

*FIG. 1D*

919 (46 kDa)

BACTERICIDAL ASSAY

*FIG. 1E*

919 (46 kDa)

ELISA assay: positive

FIG. 2A

279 (10.5 kDa)
PURIFICATION
M1 279

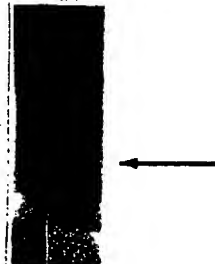


FIG. 2B

279 (10.5 kDa)
WESTERN BLOT
TP OMV

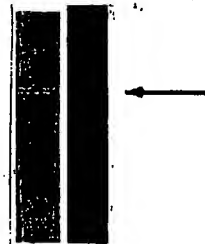


FIG. 2C

279 (10.5 kDa)
FACS

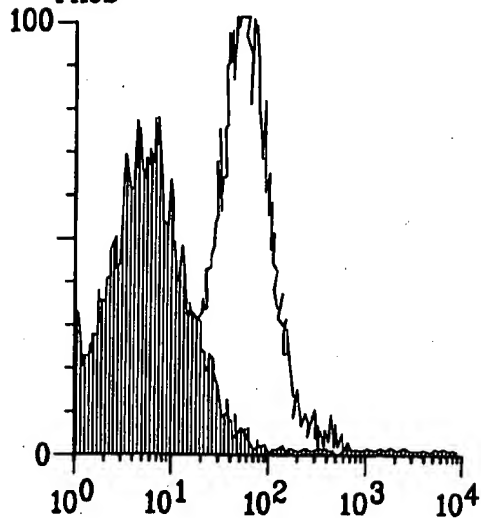


FIG. 2D

279 (10.5 kDa)
BACTERICIDAL ASSAY

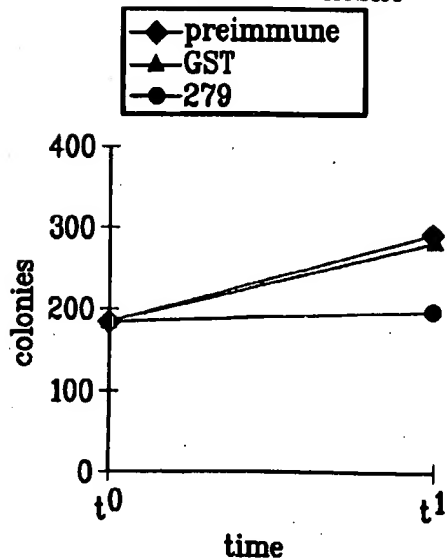


FIG. 2E

279 (10.5 kDa)

ELISA assay: positive

FIG. 3A

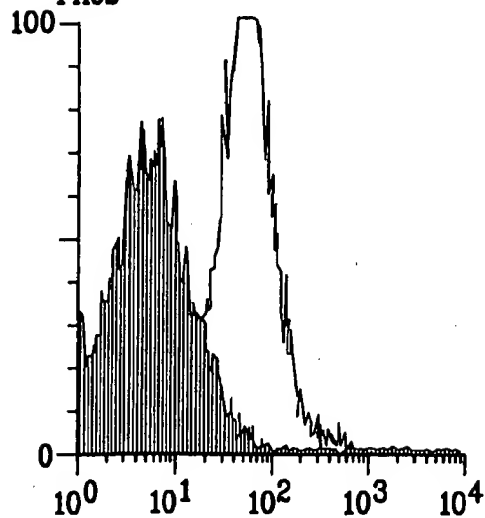
576 (27.8 kDa)
PURIFICATION
M1 576

*FIG. 3B*

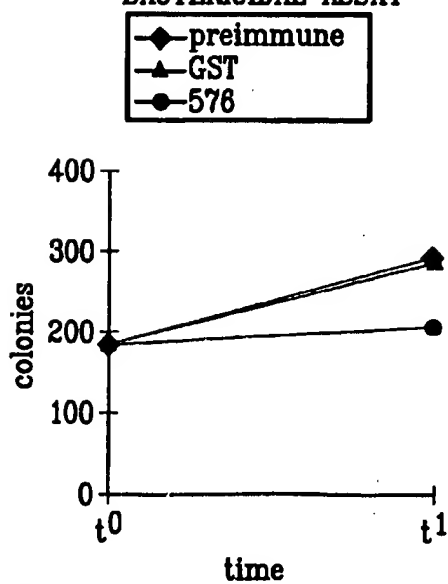
576 (27.8 kDa)
WESTERN BLOT
TP OMV

*FIG. 3C*

576 (27.8 kDa)
FACS

*FIG. 3D*

576 (27.8 kDa)
BACTERICIDAL ASSAY

*FIG. 3E*

576 (27.8 kDa)
ELISA assay: positive

FIG. 4A

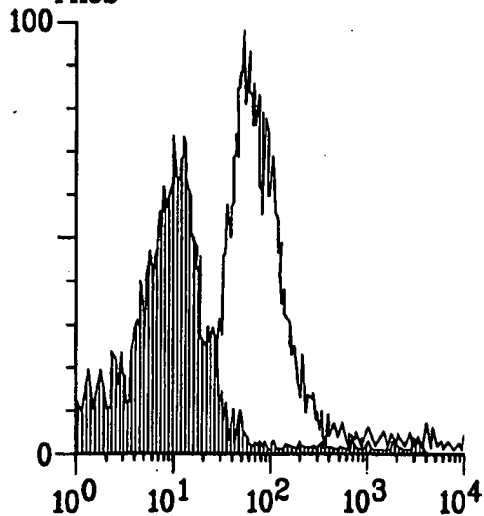
519 (33 kDa)
PURIFICATION
M1 519

*FIG. 4B*

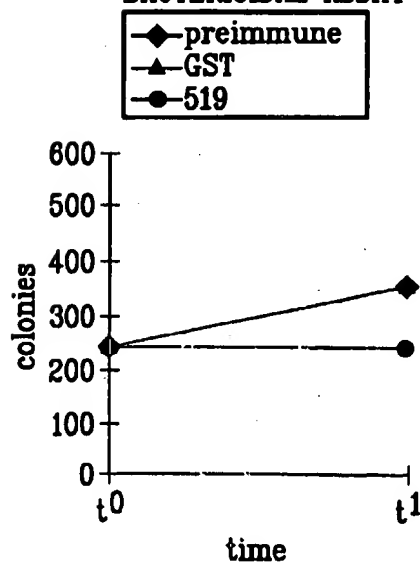
519 (33 kDa)
WESTERN BLOT
TP OMV

*FIG. 4C*

519 (33 kDa)
FACS

*FIG. 4D*

519 (33 kDa)
BACTERICIDAL ASSAY

*FIG. 4E*

519 (33 kDa)
ELISA assay: positive

FIG. 5A

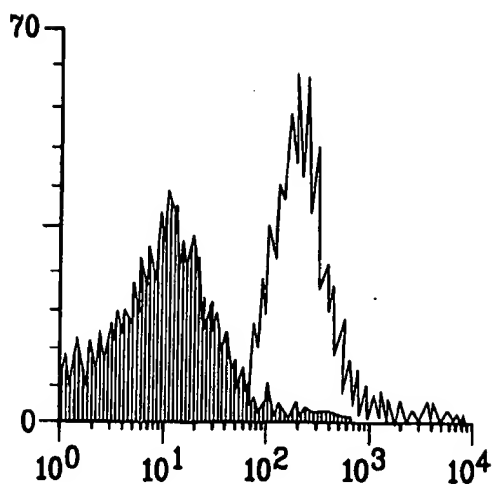
121 (40 kDa)
PURIFICATION
M1 121

*FIG. 5B*

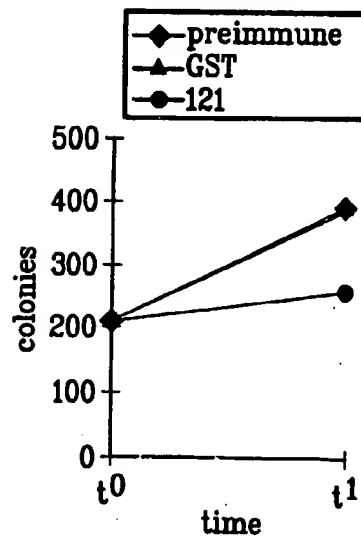
121 (40 kDa)
WESTERN BLOT
TP OMV

*FIG. 5C*

121 (40 kDa)
FACS

*FIG. 5D*

121 (40 kDa)
BACTERICIDAL ASSAY

*FIG. 5E*

121 (40 kDa)
ELISA assay: positive

FIG. 6A

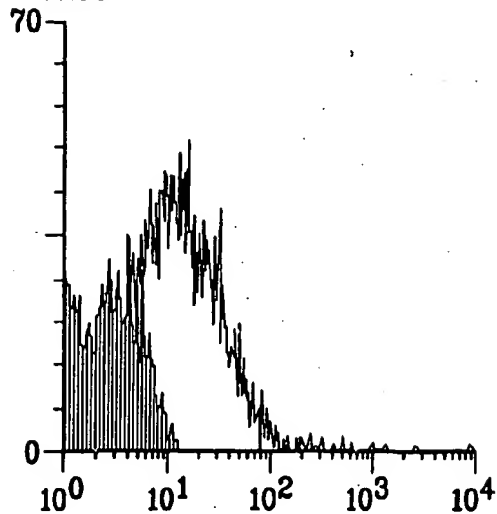
128 (101 kDa)
PURIFICATION
M1 128

*FIG. 6B*

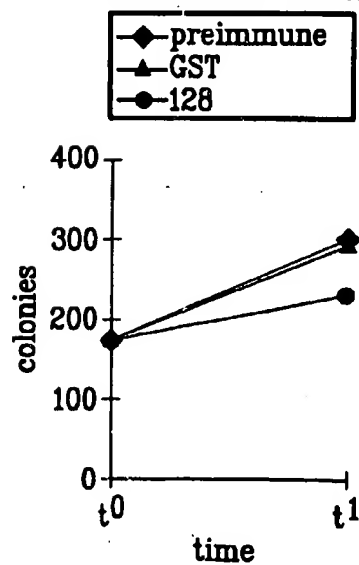
128 (101 kDa)
WESTERN BLOT
TP OMV

*FIG. 6C*

128 (101 kDa)
FACS

*FIG. 6D*

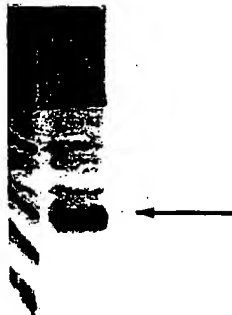
128 (101 kDa)
BACTERICIDAL ASSAY

*FIG. 6E*

128 (101 kDa)
ELISA assay: positive

FIG. 7A

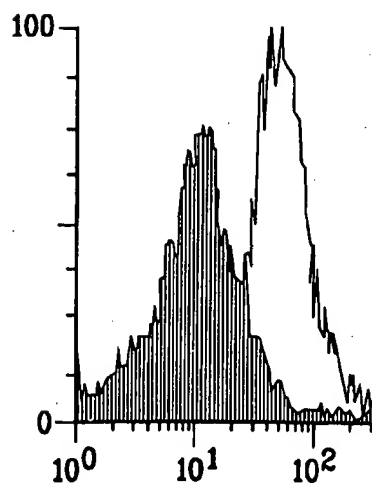
206 (17 kDa)
PURIFICATION
M1 206

*FIG. 7B*

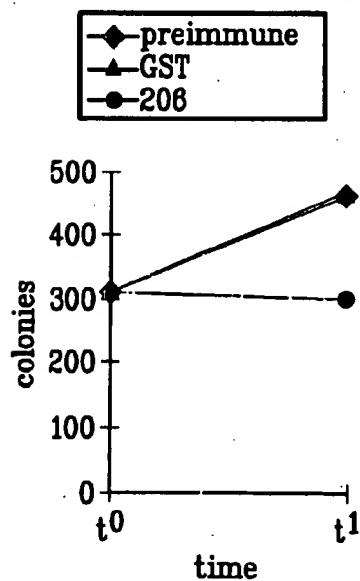
206 (17 kDa)
WESTERN BLOT
TP OMV

*FIG. 7C*

206 (17 kDa)
FACS

*FIG. 7D*

206 (17 kDa)
BACTERICIDAL ASSAY

*FIG. 7E*

206 (17 kDa)
ELISA assay: positive

FIG. 8A

287 (78 kDa)

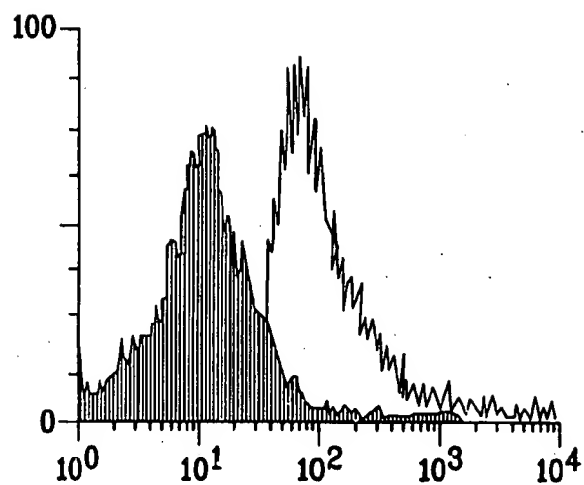
PURIFICATION

M1 287

*FIG. 8B*

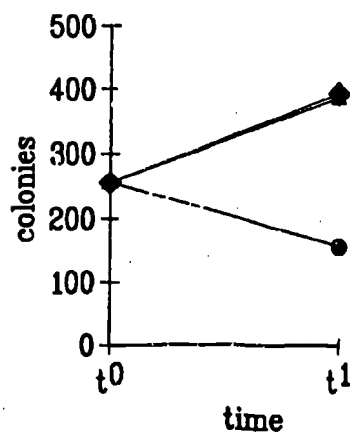
287 (78 kDa)

FACS

*FIG. 8C*

287 (78 kDa)

BACTERICIDAL ASSAY

*FIG. 8D*

287 (78 kDa)

ELISA assay: positive

FIG. 9A
406 (33 kDa)
PURIFICATION
M1 406

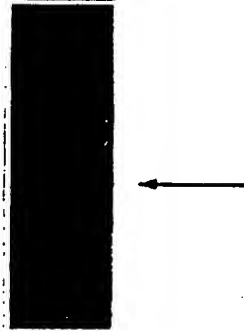


FIG. 9B
406 (33 kDa)
WESTERN BLOT
TP OMV

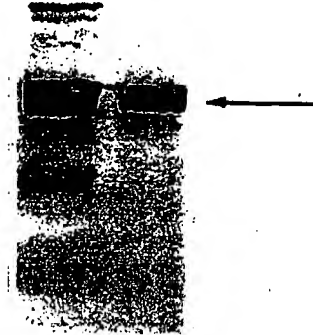


FIG. 9C
406 (33 kDa)
FACS

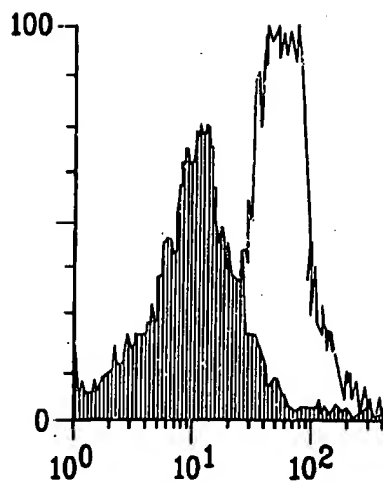


FIG. 9D
406 (33 kDa)
BACTERICIDAL ASSAY

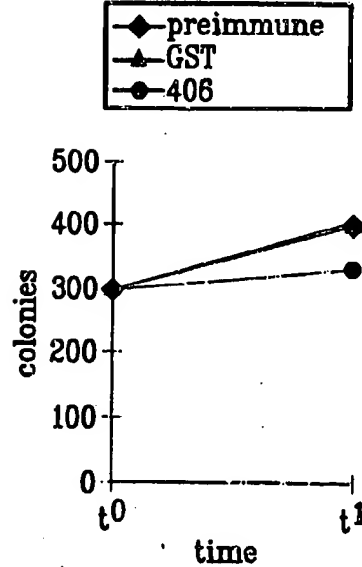


FIG. 9E
406 (33 kDa)
ELISA assay: positive

10/31

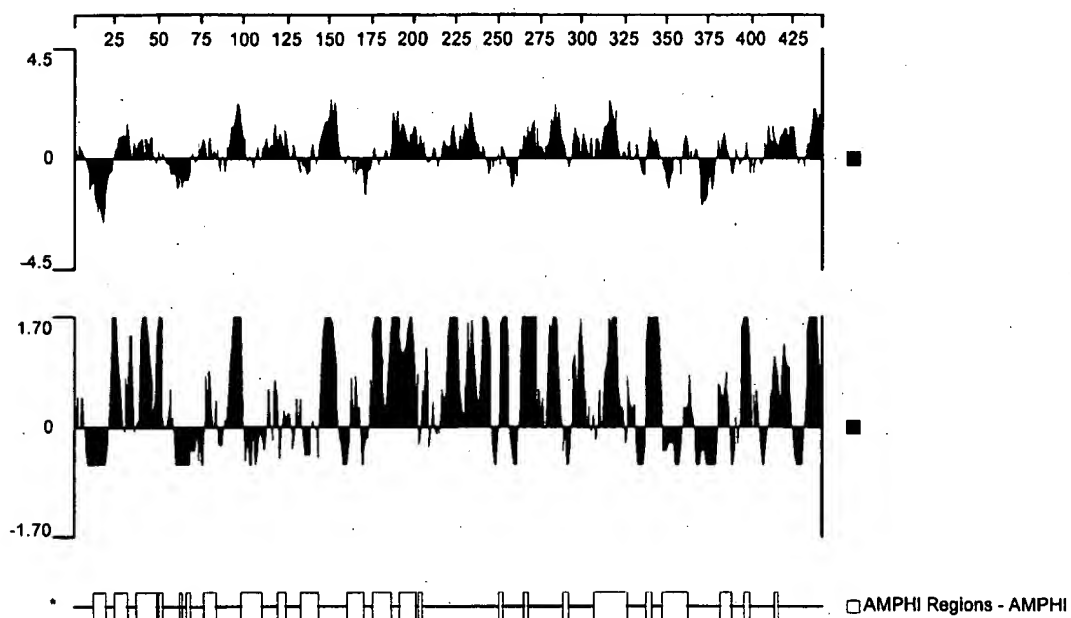
919Hydrophilicity Plot, Antigenic Index and AMPHI Regions

Fig. 10

11/31

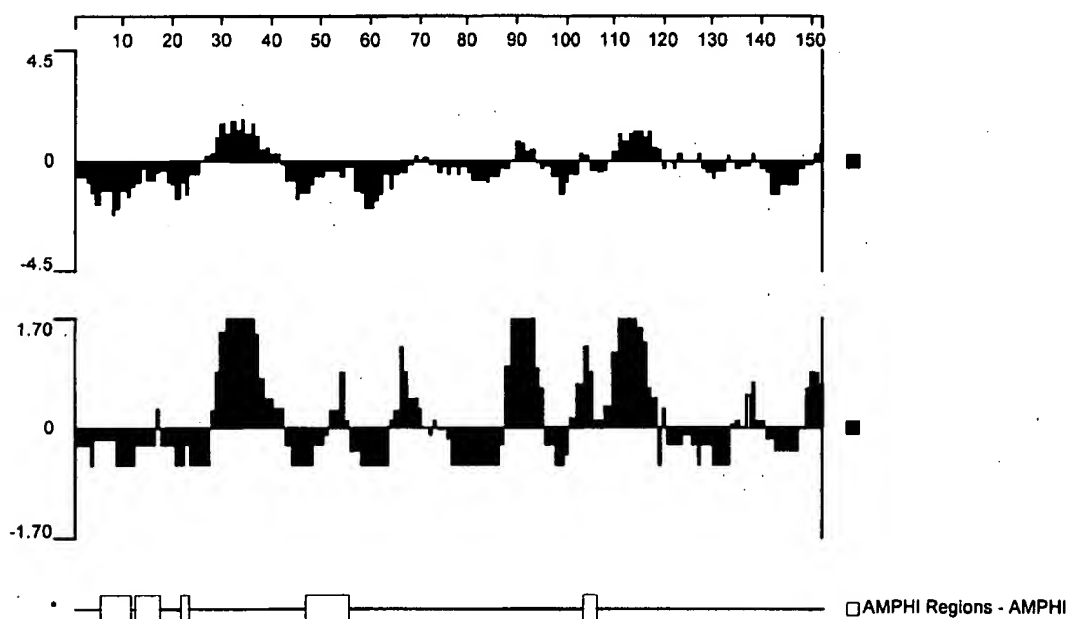
279Hydrophilicity Plot, Antigenic Index and AMPHI Regions

Fig. 11

12/31

576-1
Hydrophilicity Plot, Antigenic Index and AMPHI Regions

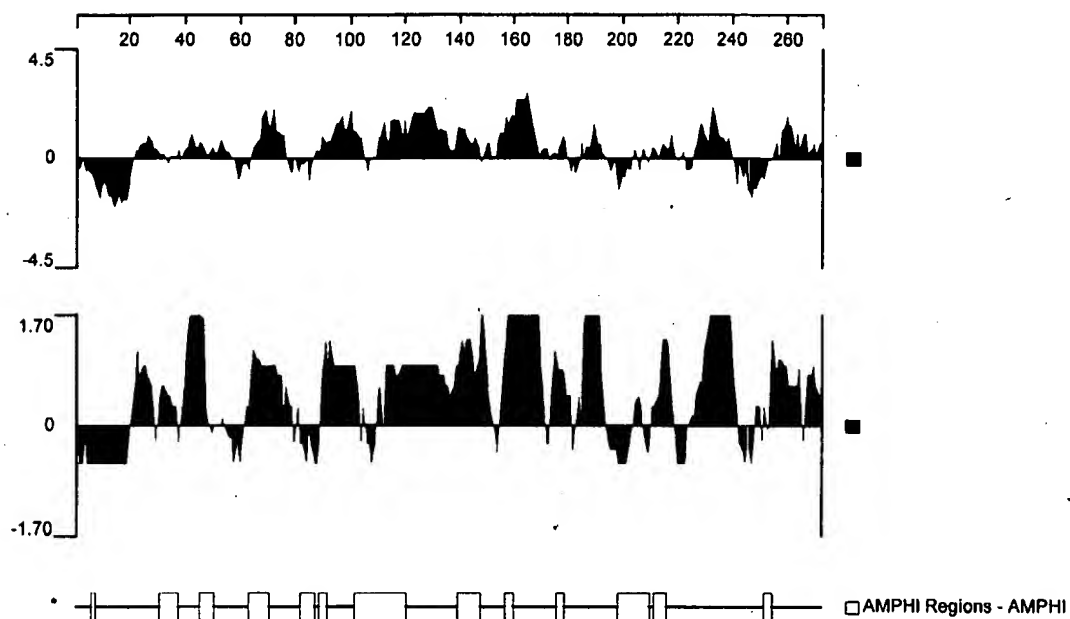


Fig. 12

519-1
Hydrophilicity Plot, Antigenic Index and AMPHI Regions

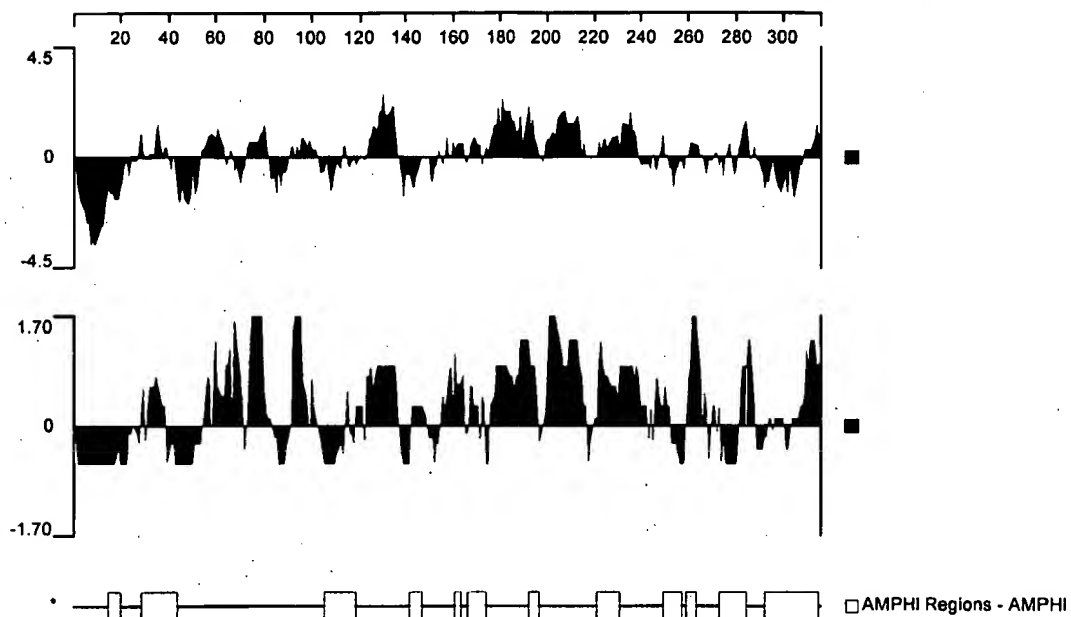


Fig. 13

121-1
Hydrophilicity Plot, Antigenic Index and AMPHI Regions

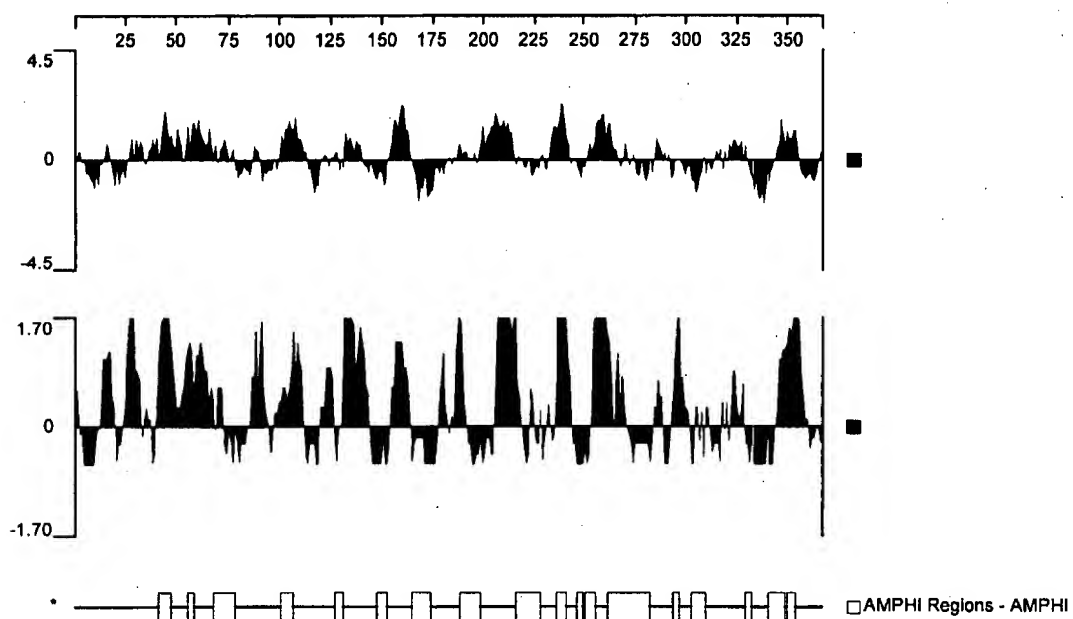


Fig. 14

128-1
Hydrophilicity Plot, Antigenic Index and AMPHI Regions

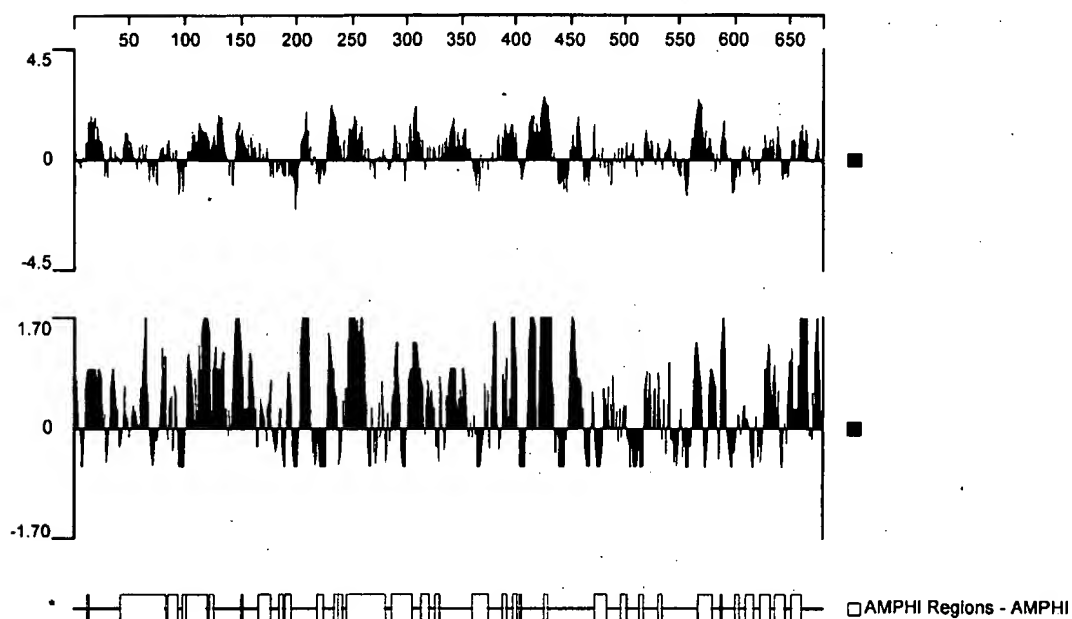


Fig. 15

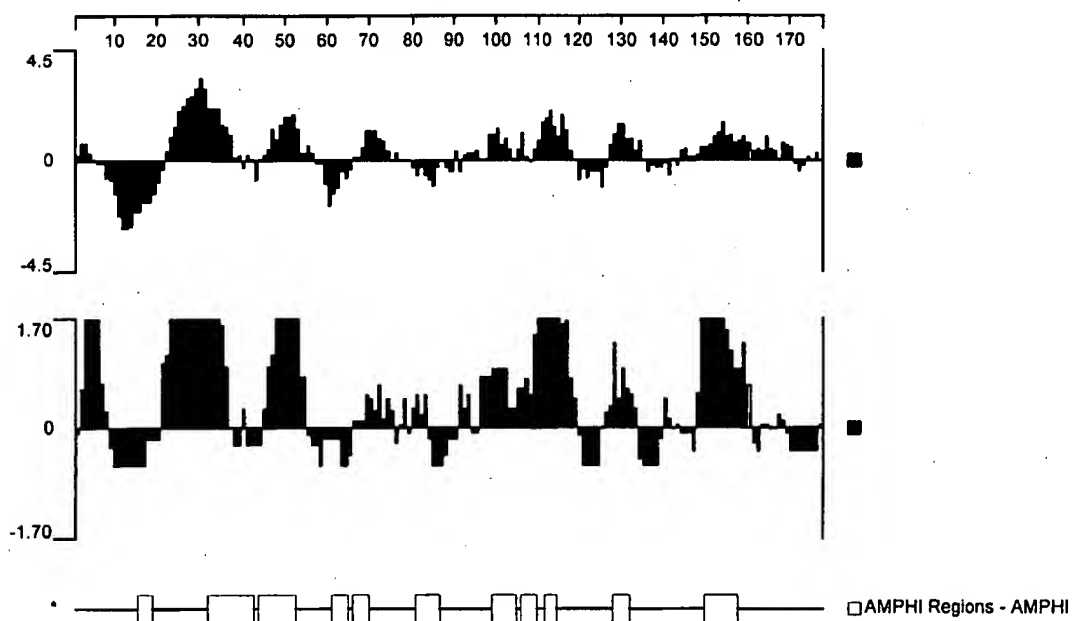
206Hydrophilicity Plot, Antigenic Index and AMPHI Regions

Fig. 16

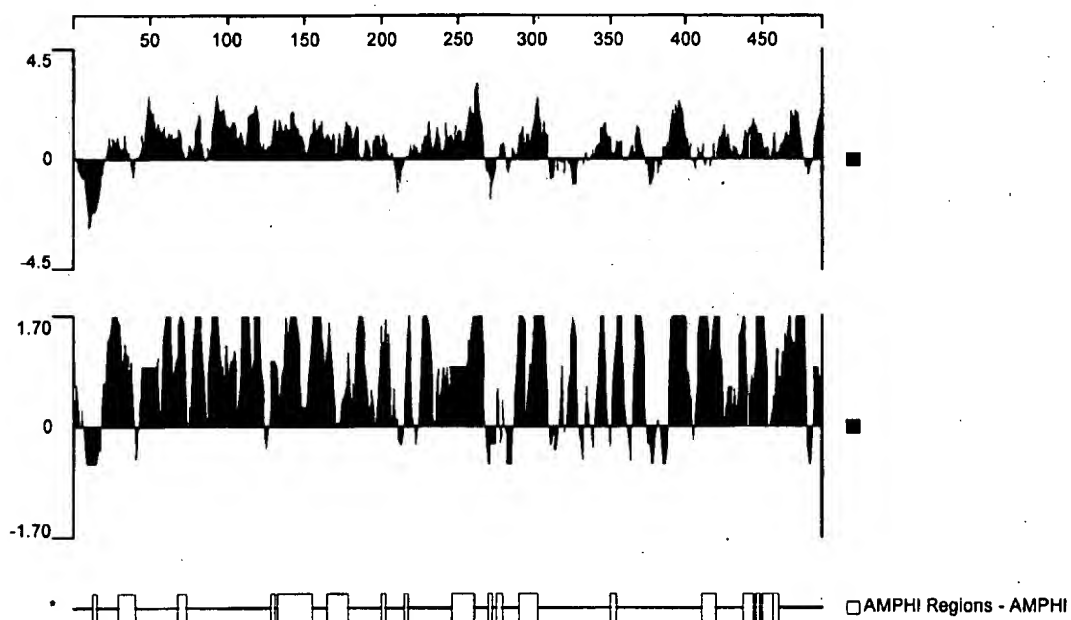
287**Hydrophilicity Plot, Antigenic Index and AMPHI Regions**

Fig. 17

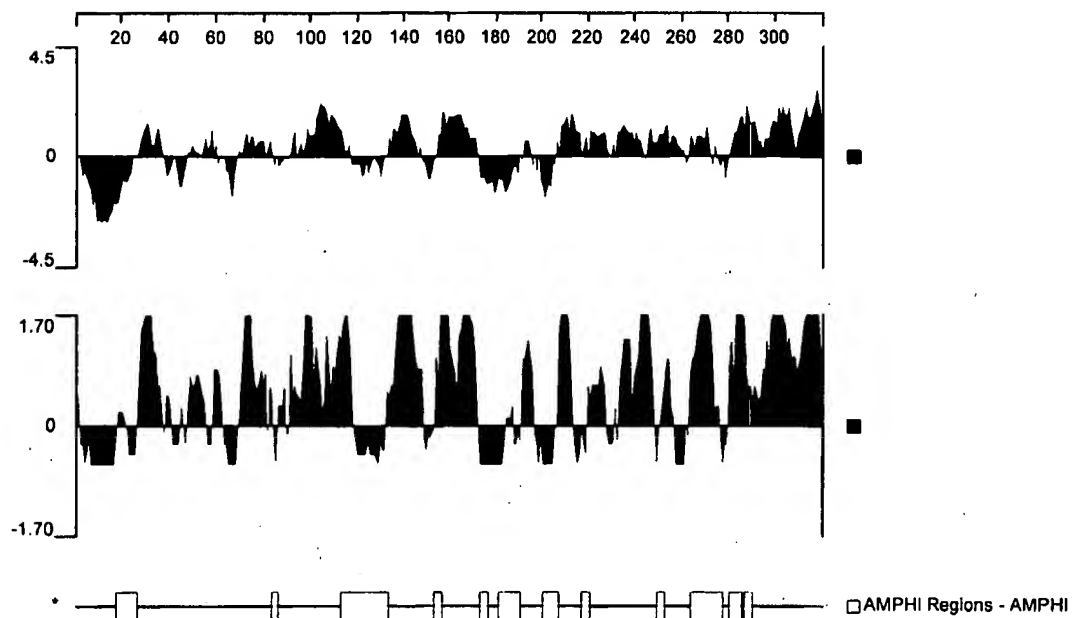
406Hydrophilicity Plot, Antigenic Index and AMPHI Regions

Fig. 18

zo05_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo08_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
z2491	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo11_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo20_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo01_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo09_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo12_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo22_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo23_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo24_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo25_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo26_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo96_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo02_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo04_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo06_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo07_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo10_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo14_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo16_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo17_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo18_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo19_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo21_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo27_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo28_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo29_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo13_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo03_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo15_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
fa1090	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo32_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo33_225	1	MDSFFKPAVWAVLWLMFAVRPALADELTNLLSSREQILRQFAEDEQPVLPINRAPARRAG
zo05_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo08_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
z2491	61	NADELIGSAMGLNEQPVLVPVNRVPARRAGNADELIGNAMGLNEQPVLVPVNRVPARRAGNA
zo11_225	61	NADELIGSAMGLNEQPVLVPVNRVPARRAGNADELIGNAMGLNEQPVLVPVNRVPARRAGNA
zo20_225	61	NADELIGSAMGLNEQPVLVPINRAPARRAGNADELIGSAMGLNEQPVLVPVNRVPARRAGNA
zo01_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo09_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo12_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo22_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo23_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo24_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo25_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo26_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo96_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo02_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo04_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo06_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo07_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo10_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo14_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo16_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo17_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo18_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo19_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo21_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo27_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo28_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo29_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo13_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo03_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo15_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
fa1090	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo32_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA
zo33_225	61	NADELIGSAMGLNE.....QPVLVPVNRVPARRAGNA

FIG. 19A

[illegible]

FIG. 19B

zo05_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo08_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
z2491	241	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo11_225	241	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo20_225	241	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo01_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo09_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo12_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo22_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo23_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo24_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo25_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo26_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo96_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo02_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo04_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo06_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo07_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo10_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo14_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo16_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo17_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo18_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo19_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo21_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo27_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo28_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo29_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo13_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo03_225	212	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo15_225	183	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
fa1090	183	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo32_225	183	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*
zo33_225	183	IHAPRTGKNIEITSLSHKYWSGKYAFARRVKKNDPSRFLN*

Fig. 19C

SUBSTITUTE SHEET (RULE 26)

gnmzq09	121	YQILDSVTTVSAKARLVD	SRNGKVLWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq31	121	YQILDSVTTVSAKARLVD	SRNGKVLWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
fa1090	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq32	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq33	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq01	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANNLT
gnmzq05	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANNLT
gnmzq08	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANNLT
gnmzq02	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq03	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq04	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq07	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq10	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq11	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq13	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq15	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq16	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq17	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq19	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq21	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq22	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq23	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq24	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq25	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq27	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq28	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq29	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
z2491	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq14	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq18	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT
gnmzq26	121	YQILDSVTTVSAKARLVD	SRNGKELWSGSASIREGSNNSNSGLLGALV	SAVVNQIANSLT

gnmzq09	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq31	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
fa1090	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq32	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq33	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq01	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq05	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq08	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq02	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq03	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq04	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq07	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq10	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq11	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq13	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq15	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq16	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq17	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq19	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq21	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq22	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq23	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq24	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq25	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq27	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq28	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq29	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
z2491	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq14	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq18	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*
gnmzq26	181	DRGYQVSKTAAYNLLSPYSHNGILKGPRFVEEQPK*

FIG. 20B

287_14 1 MFKRSVIAMACIFALSACGGGGGGSPDVKSADTLSKPAAPVVSE.....KTEEA
287_2 1 MFKRSVIAMACIFALSACGGGGGGSPDVKSADTLSKPAAPVVSE.....KTEEA
287_21 1 MFKRSVIAMACIFALSACGGGGGGSPDVKSADTLSKPAAPVVSE.....KTEEA
z2491 1 MFKRSVIAMACIFALSACGGGGGGSPDVKSADTLSKPAAPVVSE.....KTEEA
287_9 1 MFKRSVIAMACIFALSACGGGGGGSPDVKSADTLSKPAAPVVSE.....KTEEA
fa1090 1 MFKRSVIAMACIFALSACGGGGGGSPDVKSADTLSKPAAPVVSE.....KTEEA

287_14 50 KEDAPQAGSQGGGAPSAQGGQDMAAVSEENTGNGGAAATDKPKNEDEGAQNDMPQNAADT
287_2 50 KEDAPQAGSQGGGAPSAQGGQDMAAVSEENTGNGGAAATDKPKNEDEGAQNDMPQNAADT
287_21 50 KEDAPQAGSQGGGAPSAQGGQDMAAVSEENTGNGGAAATDKPKNEDEGAQNDMPQNAAGT
z2491 50 KEDAPQAGSQGGGAPSAQGGQDMAAVSEENTGNGGAAATDKPKNEDEGAQNDMPQNAAGT
287_9 61 VSGAPQADT...QDATAGKGGQDMAAVSAENTGNGGAAATDMPKNEDEGAQNDMPQNAADT
fa1090 61 AGGAPQADT...QDATAGKGGQDMAAVSAENTGNGGAAATDMPKNEDEGAQNDMPQNAADT

287_14 110 DSI TPNHTPASNMMPAGNMENQAPDAGESEOPANQPDMAANTADGMQGGDDPSAGGENAGNTA
287_2 110 DSI TPNHTPASNMMPAGNMENQAPDAGESEOPANQPDMAANTADGMQGGDDPSAGGENAGNTA
287_21 110 DSI TPNHTPDNMLLAGNMENQAPDAGESSOPANQPDMAANTADGMQGGDDPSAGGENAGNTA
z2491 110 DSI TPNHTPDNMLLAGNMENQAPDAGESSOPANQPDMAANTADGMQGGDDPSAGGENAGNTA
287_9 119 DSI TPNHTPDNMPTRDMGNQAPDAGESAOPANQPDMAANTADGMQGGDDPSAGGENAGNTA
fa1090 117

287_14 170 AQTNOAENNQTAGSQNPASSNPSATNSGGDFGRTNVGNVSVVLDGPSQNTLTHCKGDS
287_2 170 AQTNOAENNQTAGSQNPASSNPSATNSGGDFGRTNVGNVSVVLDGPSQNTLTHCKGDS
287_21 170 AQGANQAGNQAAGSSDPIPAENPAPANGGSGNFGRVDTANGVLDGPSQNTLTHCKGDS
z2491 170 AQGANQAGNQAAGSSDPIPAENPAPANGGSGNFGRVDTANGVLDGPSQNTLTHCKGDS
287_9 178 DQANQAGNQAAGSSDPIPAENPAPANGGSGNFGRVDTANGVLDGPSQNTLTHCKGDS
fa1090 117 .ESANQAGNQAAGSSDPIPAENPAPANGGSGNFGRVDTANGVLDGPSQNTLTHCKGDS

287_14 230 CSGNNFLDEEVOLKSEFEKLSDAKISNYKKDGKNDGKNDKFEVGLVADSVMKGINOYII
287_2 230 CSGNNFLDEEVOLKSEFEKLSDAKISNYKKDGKNDGKNDKFEVGLVADSVMKGINOYII
287_21 230 CSGNNFLDEEVOLKSEFEKLSDAKISNYKK...DGKNDKFEVGLVADSVMKGINOYII
z2491 230 CSGNNFLDEEVOLKSEFEKLSDAKISNYKK...DGKNDKFEVGLVADSVMKGINOYII
287_9 238 CDRD FLDEEAPPKSEFEKLSDEEKIKRYKK...DEQRENFEVGLVADRVKKGDTNRYII
fa1090 176 CNGDNLDEEAPSKSEFEKLSDEEKIKRYKK...DEQRENFEVGLVADRVKKGDTNRYII

287_14 290 FYKPKP...SFARFRRSARSRRSLPAEMPLIPVNQADTLIVDGEAVSLTGHSNIFAPEG
287_2 290 FYKPKP...SFARFRRSARSRRSLPAEMPLIPVNQADTLIVDGEAVSLTGHSNIFAPEG
287_21 286 FYKPKP...SFARFRRSARSRRSLPAEMPLIPVNQADTLIVDGEAVSLTGHSNIFAPEG
z2491 286 FYKPKP...SFARFRRSARSRRSLPAEMPLIPVNQADTLIVDGEAVSLTGHSNIFAPEG
287_9 293 IYKDKSASSSFARFRRSARSRRSLPAEMPLIPVNQADTLIVDGEAVSLTGHSNIFAPEG
fa1090 232 FYTDKPTT.....RSARSRRSLPAEMPLIPVNQADTLIVDGEAVSLTGHSNIFAPEG

287_14 348 NYRYLTYGAEKLPGGSYALRVQGEPSKGEMLAGTAVYNGEVLHFHTENGSRPSEGRFAA
287_2 348 NYRYLTYGAEKLPGGSYALRVQGEPSKGEMLAGTAVYNGEVLHFHTENGSRPSEGRFAA
287_21 344 NYRYLTYGAEKLPGGSYALRVQGEPAKGEMLAGTAVYNGEVLHFHTENGSRPSEGRFAA
z2491 344 NYRYLTYGAEKLPGGSYALRVQGEPAKGEMLAGTAVYNGEVLHFHTENGSRPSEGRFAA
287_9 353 NYRYLTYGAEKLPGGSYALRVQGEPAKGEMLAGTAVYNGEVLHFHTENGSRPSEGRFAA
fa1090 285 NYRYLTYGAEKLPGGSYALRVQGEPAKGEMLVGTAVYNGEVLHFHTENGSRPSEGRFAA

287_14 408 KVDFGSKSV DGIIDSGDGLHMGTKQKFAAIDGNGFKGTWTENGSGDVSGRFYGPAGEEVA
287_2 408 KVDFGSKSV DGIIDSGDGLHMGTKQKFAAIDGNGFKGTWTENGSGDVSGRFYGPAGEEVA
287_21 404 KVDFGSKSV DGIIDSGDGLHMGTKQKFAAIDGNGFKGTWTENGSGDVSGRFYGPAGEEVA
z2491 404 KVDFGSKSV DGIIDSGDGLHMGTKQKFAAIDGNGFKGTWTENGSGDVSGRFYGPAGEEVA
287_9 413 KVDFGSKSV DGIIDSGDGLHMGTKQKFAAIDGNGFKGTWTENGSGDVSGRFYGPAGEEVA
fa1090 345 KVDFGSKSV DGIIDSGDGLHMGTKQKFAAIDGNGFKGTWTENGSGDVSGRFYGPAGEEVA

FIG. 21A

287_14	468	GKYSYRPTDAEKGGFGVFAGKKEQD*
287_2	468	GKYSYRPTDAEKGGFGVFAGKKEQD*
287_21	464	GKYSYRPTDAEKGGFGVFAGKKEQD*
z2491	464	GKYSYRPTDAEKGGFGVFAGKKEQD*
287_9	473	GKYSYRPTDAEKGGFGVFAGKKEQD*
fa1090	405	GKYSYRPTDAEKGGFGVFAGKKRD*

FIG. 21B

z2491_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv26_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv22_519 _{ass}	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
fa1090_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv32_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv11_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv28_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv96_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv02_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv03_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv04_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv05_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv01_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv07_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv12_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv18_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv19_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv21_519 _{ass}	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv27_519	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv20_519 _{ass}	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv06_519 _{ass}	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
zv29_519 _{ass}	1	MEFFIILLAAVAVFGFKSFVVIQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL

z2491_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv26_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv22_519 _{ass}	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
fa1090_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv32_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv11_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv28_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv96_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv02_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv03_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv04_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv05_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv01_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv07_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv12_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv18_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv19_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv21_519 _{ass}	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv27_519	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv20_519 _{ass}	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv06_519 _{ass}	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
zv29_519 _{ass}	61	KEIPLDVP SQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG

z2491_519	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv26_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv22_519 _{ass}	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
fa1090_519	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv32_519	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv11_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv28_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv96_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv02_519	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv03_519	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv04_519	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv05_519	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv01_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv07_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv12_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv18_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv19_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv21_519 _{ass}	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv27_519	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv20_519 _{ass}	121	RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv06_519 _{ass}	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
zv29_519 _{ass}	121	RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE

FIG. 22A

z2491_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv26_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv22_519 ^{ass}	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
fa1090_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv32_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv11_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv28_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv96_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv02_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv03_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv04_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv05_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv01_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv07_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv12_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv18_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv19_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv21_519 ^{ass}	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv27_519	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv20_519 ^{ass}	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv06_519 ^{ass}	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR
zv29_519 ^{ass}	181	KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAQAVNASNAEKIARINRAKGEAESLR

z2491_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv26_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv22_519 ^{ass}	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
fa1090_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv32_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv11_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv28_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv96_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv02_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv03_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv04_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv05_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv01_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv07_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv12_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv18_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv19_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv21_519 ^{ass}	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv27_519	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv20_519 ^{ass}	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv06_519 ^{ass}	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
zv29_519 ^{ass}	241	LVAEANAFAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL

z2491_519	301	ISAGMKIIDSSKTAK*
zv26_519	301	ISAGMKIIDSSKTAK*
zv22_519 ^{ass}	301	ISAGMKIIDSSKTAK*
fa1090_519	301	ISAGMKIIDSSKTAK*
zv32_519	301	ISAGMKIIDSSKTAK*
zv11_519	301	ISAGMKIIDSSKTAK*
zv28_519	301	ISAGMKIIDSSKTAK*
zv96_519	301	ISAGMKIIDSSKTAK*
zv02_519	301	ISAGMKIIDSSKTAK*
zv03_519	301	ISAGMKIIDSSKTAK*
zv04_519	301	ISAGMKIIDSSKTAK*
zv05_519	301	ISAGMKIIDSSKTAK*
zv01_519	301	ISAGMKIIDSSKTAK*
zv07_519	301	ISAGMKIIDSSKTAK*
zv12_519	301	ISAGMKIIDSSKTAK*
zv18_519	301	ISAGMKIIDSSKTAK*
zv19_519	301	ISAGMKIIDSSKTAK*
zv21_519 ^{ass}	301	ISAGMKIIDSSKTAK*
zv27_519	301	ISAGMKIIDSSKTAK*
zv20_519 ^{ass}	301	ISAGMKIIDSSKTAK*
zv06_519 ^{ass}	301	ISAGMKIIDSSKTAK*
zv29_519 ^{ass}	301	ISAGMKIIDSSKTAK*

FIG. 22B

FIG. 23A

FIG. 23B

SUBSTITUTE SHEET (RULE 26)

fa1090	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm33asbc	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm32asbc	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm23asbc	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm27bc	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm09	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm10	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm24	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm25	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm14	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm04	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm11asbc	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm08n	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm96	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm01	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm02	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm03	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm07	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm12	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm18	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm19	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm20	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm21	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm06	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm17	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm13	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm05	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
z2491	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm22	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm26	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm28	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm29asbc	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm16	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm15	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
zm31asbc	361	VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK

fa1090	421	QKTTGYVWQLLPNGMKPEYRP*
zm33asbc	421	QKTTGYVWQLLPNGMKPEYRP*
zm32asbc	421	QKTTGYVWQLLPNGMKPEYRP*
zm23asbc	421	QKTTGYVWQLLPNGMKPEYRP*
zm27bc	421	QKTTGYVWQLLPNGMKPEYRP*
zm09	421	QKTTGYVWQLLPNGMKPEYRP*
zm10	421	QKTTGYVWQLLPNGMKPEYRP*
zm24	421	QKTTGYVWQLLPNGMKPEYRP*
zm25	421	QKTTGYVWQLLPNGMKPEYRP*
zm14	421	QKTTGYVWQLLPNGMKPEYRP*
zm04	421	QKTTGYVWQLLPNGMKPEYRP*
zm11asbc	421	QKTTGYVWQLLPNGMKPEYRP*
zm08n	421	QKTTGYVWQLLPNGMKPEYRP*
zm96	421	QKTTGYVWQLLPNGMKPEYRP*
zm01	421	QKTTGYVWQLLPNGMKPEYRP*
zm02	421	QKTTGYVWQLLPNGMKPEYRP*
zm03	421	QKTTGYVWQLLPNGMKPEYRP*
zm07	421	QKTTGYVWQLLPNGMKPEYRP*
zm12	421	QKTTGYVWQLLPNGMKPEYRP*
zm18	421	QKTTGYVWQLLPNGMKPEYRP*
zm19	421	QKTTGYVWQLLPNGMKPEYRP*
zm20	421	QKTTGYVWQLLPNGMKPEYRP*
zm21	421	QKTTGYVWQLLPNGMKPEYRP*
zm06	421	QKTTGYVWQLLPNGMKPEYRP*
zm17	421	QKTTGYVWQLLPNGMKPEYRP*
zm13	421	QKTTGYVWQLLPNGMKPEYRP*
zm05	421	QKTTGYVWQLLPNGMKPEYRP*
z2491	421	QKTTGYVWQLLPNGMKPEYRP*
zm22	421	QKTTGYVWQLLPNGMKPEYRP*
zm26	421	QKTTGYVWQLLPNGMKPEYRP*
zm28	421	QKTTGYVWQLLPNGMKPEYRP*
zm29asbc	421	QKTTGYVWQLLPNGMKPEYRP*
zm16	421	QKTTGYVWQLLPNGMKPEYRP*
zm15	421	QKTTGYVWQLLPNGMKPEYRP*
zm31asbc	421	QKTTGYVWQLLPNGMKPEYRP*

FIG. 23D